

### REMARKS/ARGUMENTS

This is a preliminary amendment in a RCE application. The Office Action mailed January 25, 2007 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. Claims 1-51 originally appeared in the application. Claims 2-4, 6-9, 13-17, 19, 21-23, 25-28, 31-34, 36, 38-49, and 51 are withdrawn from consideration in a response to a restriction requirement. The claims presented for examination are: claims 1, 5, 10, 11, 18, 20, 24, 29, 30, 35, 37, and 50.

#### **35 USC §112 Rejection – Claim 1 “a longitudinal component”**

In numbered paragraphs 5-6 of the Office action mailed January 25, 2007, claim 1 was rejected under 35 USC §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because claim 1 recites the limitation “a longitudinal component” in line 12 and then again recites the limitation “a longitudinal component” in line 20. It is unclear whether there exist two longitudinal components or just one.

Applicants have amended claim 1 to clarify that claim includes “a microchannel longitudinal component” and “a circuit line longitudinal component.”

Applicants believe that the amendment overcomes the rejection of claim 1 under 35 USC §112, second paragraph, stated in numbered paragraphs 5-6 of the Office action mailed January 25, 2007 and that a complete response to the rejection has been provided.

### **35 USC §112 Rejection – Claim 1 “an offset component”**

In numbered paragraph 7 of the Office action mailed January 25, 2007, claim 1 was rejected under 35 USC §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because claim 1 recites the limitation “an offset component” in line 13 and then again recites the limitation “an offset component” in line 22. It is unclear whether there exist two offset components or just one.

Applicants have amended claim 1 to clarify that claim 1 includes “a microchannel offset component” and “a circuit line offset component.”

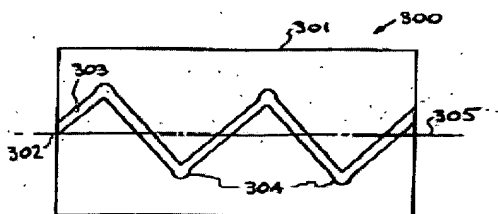
Applicants believe that the amendment overcomes the rejection of claim 1 under 35 USC §112, second paragraph, stated in numbered paragraph 7 of the Office action mailed January 25, 2007 and that a complete response to the rejection has been provided.

### **35 USC §102(e) Rejection**

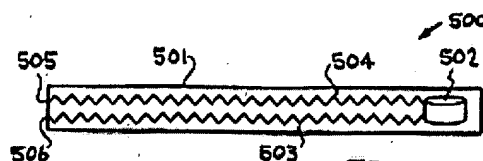
In numbered paragraph 9-12 of the Office Action mailed January 25, 2007, claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 claiming Applicants’ invention were rejected under 35 USC §102(e) as being anticipated by the Fishman reference (US Published Patent Application No. 2003/0032946).

### **Applicants’ Claimed Invention**

Appellants’ claimed invention is illustrated in FIGS. 3 and 5 reproduced below.



**FIG. 3**

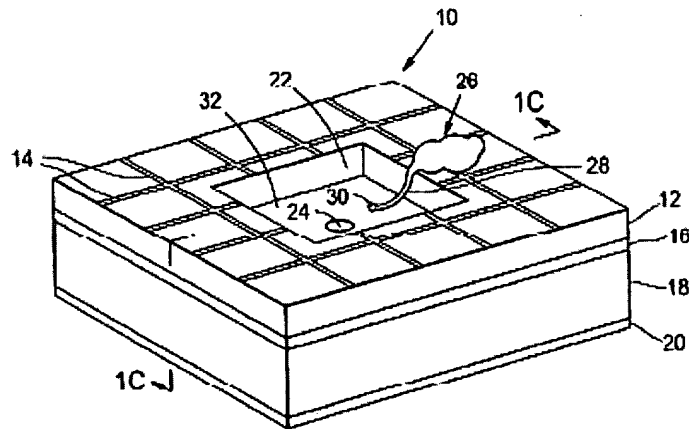


**FIG. 5**

As stated on page 3, lines 6-12 of Appellants' application, "The present invention provides a stretchable electronic circuit or electronic device and a polymer-based process to produce a circuit or electronic device containing a stretchable a conducting circuit. The stretchable electronic apparatus has a central longitudinal axis and the apparatus is stretchable in a longitudinal direction generally aligned with the central longitudinal axis. The apparatus comprises a stretchable polymer body and at least one circuit line operatively connected to the stretchable polymer body."

#### The Fishman Reference

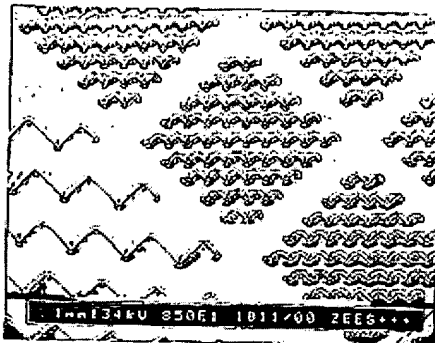
The Fishman reference is United States Published Patent Application No 2003/0032946 which shows an artificial synapse chip 10 in FIG. 1 reproduced below.



**FIG. 1A**

In the Fishman reference a micropattern 14 is provided on substrate 12, effective to direct and guide the growth of cells and cell processes in contact with the substrate 12. A preferred method of producing a micropattern 14 is to contact substrate 12 with a microcontact printing stamp having an ordered assemblage of molecules, which may be a discontinuous assemblage, for deposition on to

substrate 12. FIG. 3 is a plan view SEM of a stamp embodying features of the invention for making a micropattern 14 on a surface. FIG. 3 is reproduced below.



**FIG. 3**

The micropattern 14 may include growth factors, cell adhesion molecules, antibodies specific to cell surface proteins of the neurite or cell body, or other molecules or atoms effective to guide or modulate the growth of a neurite or the attachment of a cell or cell process.

#### **The Fishman Reference Does Not Anticipate Applicants' Invention**

Applicants have amended claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 and Applicants believe the invention claimed in amended claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 is not anticipated by the Fishman reference. The standard for a 35 USC §102 rejection is stated in RCA Corp. v. Applied Digital Systems, Inc., 221PQ 385, 388 (d. Cir. 1984) "Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention."

Applicants point out that the following elements of Applicants' amended claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 are not found in the Fishman reference:

"an electrically conductive media contained in said at least one microchannel," or

“at least one electronic circuit line,” or

“said at least one electronic circuit line extending in the longitudinal direction and having a circuit line longitudinal component that extends in the longitudinal direction and having a circuit line offset component that is at an angle to the longitudinal direction, said circuit line longitudinal component and said circuit line offset component allowing the apparatus to stretch in the longitudinal direction while maintaining the integrity of said at least one circuit line,” or

“filling said at least one microchannel with an electrically conductive media to assure that said stretchable polymer body has a circuit line longitudinal component that extends in the longitudinal direction, and said stretchable polymer body has a circuit line offset component that is at an angle to the longitudinal direction, said longitudinal component and said offset component allowing the device to stretch in the longitudinal direction while maintaining the integrity of said circuit line longitudinal component and said circuit line offset component.”

Note that in the Fishman reference does not show an electronic circuit or a microchannel filled with an electrically conductive media. In the Fishman reference a micropattern is provided on the substrate effective to direct and guide the growth of cells and cell processes in contact with the substrate. The micropattern may include growth factors, cell adhesion molecules, antibodies specific to cell surface proteins of the neurite or cell body, or other molecules or atoms effective to guide or modulate the growth of a neurite or the attachment of a cell or cell process.

Since Applicants' claim elements described above are not found in the Fishman reference, the Fishman reference does not support a 35 USC §102(e) rejection of Applicants' amended claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 and the rejection should be withdrawn.

### 35 USC §103 Rejection – Albert et al In View of Fishman

In numbered paragraphs 14-15 of the Office Action mailed January 25, 2007, claims 1, 11, 20, 30, and 35 were rejected under 35 USC §103(a) as allegedly being unpatentable over the Albert et al reference (U.S. Published Patent No. 2003/0020844) in view of the Fishman reference (U.S. Published Patent Application No. 2003/0032946).

Applicants have amended claims 1, 11, 20, 30, and 35 and believe that amended claim 1, 11, 20, 30, and 35 are patentable and that the Albert et al reference and the Fishman reference would not support a 35 USC §103(a) rejection.

#### Albert et al Reference 2003/0020844

The Albert et al reference shows an electronic display 100 illustrated in FIG. 2A reproduced below.

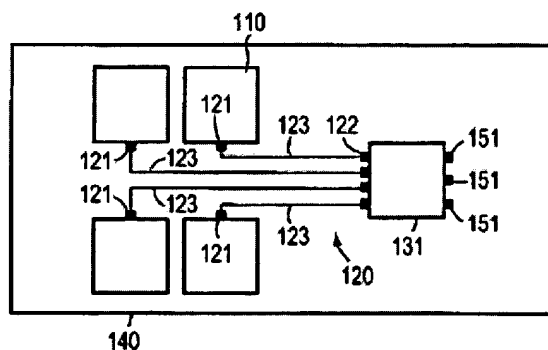


FIG. 2A

The display 100 can employ various materials. The flexible substrate 140 can comprise a polyester sheet with electrical connections 123 formed of copper by conventional patterning techniques. Alternatively, the electrical connections 123 can be printed with silver ink or carbon ink. The electrical connections can be coated by printing with a dielectric, for example a polymer. Vias through the dielectric can provide for electrical contact to a display element 110. Each electrical connection 123 is in communication with a first contact pad 121 and a

second contact pad 122. Further, each first contact pad 121 is in electrical communication with one of the display elements 110 while each of the second contact pads 122 is in electrical communication with the driver chip 131. The driver chip 131 is in electrical communication with other contact pads 151 to provide for electrical communication with other IC's (not shown) of the control circuit 130.

### **Patentability of Applicants' Claimed Invention**

Applicants' claims 1, 11, 20, 30, and 3 were rejected under 35 USC §103(a) as being "obvious" over the two references. The Examiner bears the initial burden of factually supporting a *prima facie* conclusion of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or reference when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In assessing any *prima facie* conclusion of obviousness the guidance of the Supreme Court in *Graham v. John Deere Co.* is used. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) requires determining: "the scope and content of the prior art," ascertaining "the differences between the prior art and the claims at issue," and resolving "the level of ordinary skill in the pertinent art."

Applicants point out that the following elements of Applicants' amended claims 1, 11, 20, 30, and 3 are not found in the Albert et al reference or the Fishman reference:

"a solid stretchable polymer body made entirely of poly(dimethylsiloxane), said solid stretchable polymer body made entirely of poly(dimethylsiloxane) having a polymer body longitudinal axis that is concurrent with the central longitudinal axis of the apparatus," or

"at least one microchannel in said solid stretchable polymer body made entirely of poly(dimethylsiloxane), said at least one microchannel having a microchannel longitudinal axis that is concurrent with the central longitudinal axis of the apparatus, a microchannel longitudinal component that extends in the longitudinal direction, and a microchannel offset component that is at an angle to the longitudinal direction," or

"an electrically conductive media contained in said at least one microchannel, wherein said at least one microchannel and said electrically conductive media form at least one electronic circuit line operatively connected to said solid stretchable polymer body made entirely of poly(dimethylsiloxane), said at least one electronic circuit line extending in the longitudinal direction and having a longitudinal component that extends in the longitudinal direction and having an offset component that is at an angle to the longitudinal direction, said longitudinal component and said offset component allowing the apparatus to stretch in the longitudinal direction while maintaining the integrity of said at least one circuit line."

Applicants also point out that the following steps of Applicants' amended claim 35 method claims are not found in the Albert et al reference or the Fishman reference:

"providing a solid stretchable polymer body made entirely of poly(dimethylsiloxane)," or

"assuring that said solid stretchable polymer body made entirely of poly(dimethylsiloxane) has a polymer body longitudinal axis that is concurrent with the central longitudinal axis of the electronic device;" or



“providing at least one microchannel in said solid stretchable polymer body made entirely of poly(dimethylsiloxane) with said at least one microchannel having a microchannel longitudinal axis that is concurrent with the central longitudinal axis of the device, a longitudinal component that extends in the longitudinal direction, and an offset component that is at an angle to the longitudinal direction,” or

“filling said at least one microchannel with an electrically conductive media to assure that said stretchable polymer body has a circuit line longitudinal component that extends in the longitudinal direction,” or

“said stretchable polymer body has a circuit line offset component that is at an angle to the longitudinal direction,” or

“said longitudinal component and said offset component allowing the device to stretch in the longitudinal direction while maintaining the integrity of said circuit line longitudinal component and said circuit line offset component.”

Since both references fail to show the elements, there can be no combination of the two references that would show Applicant’s invention defined by amended claims 1, 11, 20, 30, and 35 and render it unpatentable. There is no combination of the Albert et al reference and the Fishman reference that would produce the combination of elements of Applicants’ amended claims 1, 11, 20, 30, and 35. Further, there is no teaching of combining the Albert et al reference and the Fishman reference to meet Applicants’ amended claims 1, 11, 20, 30, and 35. Thus, the combination of references fails to support a rejection of the claims under 35 USC §103, and the rejection should be withdrawn.

Under MPEP §2142, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. It should be noted that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. In re Vaeck, 947 F.2d 488, 20

USPQ2d 1438 (Fed. Cir. 1991). Since there is no suggestion or motivation to combine the references to produce Applicant's invention, a 35 USC §103(a) rejection of Applicant's claims would not be appropriate.

Application No.: 10/825,787

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated January 25, 2007 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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